

Notice of Allowability

Application No.

10/780,278

Examiner

Sang Nguyen

Applicant(s)

LARSEN ET AL.

Art Unit

2886

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to interview on 4/12/07 and response remark 04/04/07.
2. ☒ The allowed claim(s) is/are 1-3, 5-12, 14-25, 27-34, and 37-38 which have been renumbered as indicated 1-33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 4/12/07.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Robert M. Bain (Reg. No. 36,736) on April 12, 2007.

The application has been amended as follows 04/04/07:

Claims 4, 13, and 26 have been canceled.

Please, amend claims 1, 5-7, 14, 25, 27, and 37-38 as following:

Claim 1 (Currently Amdnded) A light scattering detector device, comprising:
a detection cell to accept particles suspended in a gas stream and permit a polarized beam to pass through a trajectory of the particles and gas stream;

a sample light detector disposed to detect light scattered in the detection cell;
~~and~~

a light trap that accepts the polarized beam after it passes through the detection cell, the light trap including,

an elongated housing through which the polarized beam passes, and light absorptive material within the elongated housing; and

an absorptive filter disposed to substantially align the electric field vector of the polarized beam with the plane of incidence defined by the polarized beam and the

normal to said absorptive filter, and disposed to intersect the polarized beam at an angle of incidence that approximates Brewster's angle;

a reference light detector to detect light passing through said absorptive filter; and

a noise cancellation circuit to sum a reference signal corresponding to light received by said reference light detector and a sample signal corresponding to light received by said sample light detector, the noise cancellation circuit further comprising one or more potentiometers that may be adjusted to balance said reference signal and said sample signal.

Claim 5 (Currently Amended) The device of claim 4 1, wherein said reference signal comprises a current output by said reference light detector, said sample signal comprises a current output by said sample light detector and current subtraction is conducted at a summing point in said noise cancellation circuit.

Claim 6 (Currently Amended) The device of claim 4 1, wherein said reference signal comprises a voltage proportional to a current output by said reference light detector, and said sample signal comprises a voltage proportional to a current output by said sample light detector, and voltage subtraction is conducted by a difference amplifier in said noise cancellation circuit.

Claim 7 (Currently Amended) The device of claim 4 1, further comprising a sample compound lens collector to direct light scattered in the detection cell upon the sample light detector.

Claim 14 (Currently Amended) The device of claim ~~13~~ 12, further comprising a light source to produce the polarized beam; and

a set of apertures disposed between said light source and said detection cell.

Claim 27 (Currently Amended) The device of claim ~~26~~ 25, further comprising a noise cancellation circuit to sum a reference signal corresponding to light received by said reference light detector and a sample signal corresponding to light received by said sample light detector, the noise cancellation circuit further comprising one or more potentiometers that may be adjusted to balance said reference signal and said sample signal.

Claim 25 (Currently Amended) A light scattering detector device, comprising:
a detection cell to accept particles suspended in a gas stream and permit a light beam to pass through a trajectory of the particles and gas stream;

a sample light detector disposed to detect light scattered in the detection cell;

a light trap that accepts the light beam after it passes through the detection cell;

a sample compound lens collector to direct light scattered in the detection cell upon the sample light detector; and

a spherical mirror to direct light scattered in the detection cell to the compound lens collector;

a reference cell through which the light beam passes before the light beam is accepted by said light trap;

a reference light detector;

a reference cell compound lens collector to direct light scattered in the reference cell upon the reference light detector; and
a spherical mirror to direct light scattered in the reference cell to the reference cell compound lens collector.

Claim 37 (Currently Amended) A light scattering detector device, comprising:
a detection cell to accept particles suspended in a gas stream and permit a light beam to pass through a trajectory of the particles and gas stream;

a sample light detector disposed to detect light scattered in the detection cell; a light trap that accepts the light beam after it passes through the detection cell;

a reference cell through which the polarized beam passes before the polarized beam is accepted by said light trap;

a reference light detector;
a reference cell compound lens collector to direct light scattered in the reference cell upon the reference light detector;
a spherical mirror to direct light scattered in the reference cell to the reference cell compound lens collector;

a heated inlet port that extends into said detection cell to control the trajectory of the particles and gas stream; and

a heated exit port that extends into said detection cell to control the trajectory of the particles and gas stream;

wherein said heated inlet port and said heated exit port are thermally conductive and said detection cell is thermally nonconductive.

Claim 38 (Currently Amended) A light scattering detector device, comprising:
a detection cell to accept particles suspended in a gas stream and permit a light beam to pass through a trajectory of the particles and gas stream;
a sample light detector disposed to detect light scattered in the detection cell;
a light trap that accepts the light beam after it passes through the detection cell;
a reference cell through which the polarized beam passes before the
polarized

beam is accepted by said light trap;

a reference light detector;
a reference cell compound lens collector to direct light scattered in the
reference cell upon the reference light detector;
a spherical mirror to direct light scattered in the reference cell to the
reference cell compound lens collector;

a heated inlet port that extends into said detection cell to control the trajectory of the particles and gas stream; and

a heated exit port that extends into said detection cell to control the trajectory of the particles and gas stream;

wherein said heated inlet port and said heated exit port are thermally isolated from said detection cell.

The following is an examiner's statement of reasons for allowance:

Claims 1-3, 5-12, 14-25, 27-34, and 37-38 are allowed.

Claims 1,25, and 37-38 are allowed over the prior art of the record for the reasons set forth in the previous Office action on 01/04/07 with pages 16-17.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifu Chowdhury can be reached on (571) 272-2800 ext. 86. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

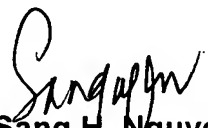
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 12, 2007


Sang H. Nguyen
Primary Patent Examiner
Art Unit 2886